

# APPLICATION GUIDE FOR RCA RECEIVING TUBES

## APPLICATIONS

1. Audio-Frequency Amplifiers
2. Automatic Gain Control Circuits (AGC and AVC)
3. Bandpass Amplifiers (Color TV)
4. Blanks
5. Burst Amplifiers
6. Cathode-Drive RF Amplifiers (Grounded-Grid)
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9. Color Matrixing Circuits
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11. Converters
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37. Sync Amplifiers
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40. Tuning Indicators
41. Vertical-Deflection Circuits (Oscillator and Amplifier)
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In the Application Guide on the following pages, RCA receiving tubes are classified in two ways: (a) by functional and (b) by structure (diode, triode, etc.). The functional classification covers 42 principal types of application.

Tube types are grouped by structure under each classification; they are also keyed to indicate miniature, octal, novistor, duodecar, and novar types.

Triodes are designated as *low*, *medium*, or *high-mu* types on the following basis: *low*, less than 10; *medium*, 10 or more, but less than 50; *high*, 50 or more. Where applicable, tubes are designated as *sharp*, *semiremote*, or *remote-cutoff* on the basis of the ratio, in per cent, of the negative control-grid voltage to the screen-grid voltage (or, for triodes, the plate voltage) for cut-off, as given in the characteristics or typical operation values. These terms are defined as follows: *sharp*, less than 10 per cent; *semiremote*, 10 or more, but less than 20 per cent; *remote*, 20 per cent or more.



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# APPLICATION GUIDE FOR RCA RECEIVING TUBES

## 1. AUDIO-FREQUENCY AMPLIFIERS

### Voltage Amplifiers

Medium-Mu Triode with Twin Diode

• 6BF6

Medium-Mu Triode—Sharp-Cutoff Pentode

• 6LQ8 • 11LQ8 • 7199†

Medium-Mu Twin Triode

• 5J6 • 7AU7 • 12SN7GTA  
• 6J6A • 9AU7 • 19J6  
• 6SN7GTB • 12AU7A/ECC82

Twin Diode—High-Mu Triode

• 3AV6 • 6BN8 • 12AV6  
• 4AV6 • 6CN7 • 14GT8  
• 6AT6 • 8BN8 • 18FY6A  
• 6AV6 • 12AT6

High-Mu Twin Triode

• 6EU7† • 12AZ7A • 12SL7GT  
• 6SL7GT • 12BZ7 • 20EZ7  
• 12AX7A/ECC83† • 7025†

Triple Diode—High-Mu Triode

• 5T8 • 6T8A

High-Mu Triode—Sharp-Cutoff Pentode

• 6KT8

Sharp-Cutoff Pentode

• 3DT6A\* • 6DT6A\* • 5879†  
• 4DT6A\* • 6GX6\* • 7543†  
• 5HZ6\*

### Power Amplifiers

Beam Power Tube

• 5AQ5 • 6L6 • 17CU5/  
• 5CZ5 • 6L6GC† 17C5  
• 5V6GT • 6V6 • 25C5  
• 6AQ5A • 6V6GTA • 25F5A  
• 6AS5 • 6W6GT • 34GD5A  
• 6CM6 • 6Y6GA/6Y6G • 35C5  
• 6CU5 • 11DS5 • 35L6GT  
• 6CZ5 • 12AB5 • 50B5  
• 6DG6GT • 12AQ5 • 50C5  
• 6DS5 • 12CA5 • 50L6GT  
• 6GC5 • 12CU5/12C5 • 6973†  
• 6HG5 • 12V6GT • 7408†  
• 12W6GT

Beam Power Tube—Sharp-Cutoff Pentode

† 6AD10 † 6AL11 † 12BF11\*  
† 6BF11\* † 12AL11 † 17BF11\*

Pentode—Beam Power Tube

† 6Z10/6J10 † 13Z10/13J10

Power Pentode

• 6BQ5/  
EL84 • 6K6GT • 35EH5  
• 6EH5 • 8BQ5 • 50EH5  
• 10BQ5 • 60FX5  
• 12FX5 • 7189†  
• 25EH5 • 7868†  
• 6GK6

## 2. AUTOMATIC GAIN CONTROL

### CIRCUITS (AGC & AVC)

Diode—Remote-Cutoff Pentode

• 6EQ7 • 12EQ7

Twin Diode—High-Mu Triode

• 3AV6 • 6AV6 • 12AV6  
• 4AV6 • 12AT6 • 18FY6A  
• 6AT6

Medium-Mu Triode—Sharp-Cutoff Pentode

• 5AN8 • 6BA8A • 6GH8A  
• 5GH8A • 6BH8 • 8BA8A  
• 6AN8A • 6CU8 • 8BH8  
• 6AZ8

High-Mu Triode—Sharp-Cutoff Pentode

• 6AW8A • 6JV8 • 8JV8  
• 6HF8 • 8AW8A • 10HF8

Sharp-Cutoff Twin Pentode

• 3BU8/ • 4HS8 • 6HS8  
3GS8 • 6BU8

• Miniature † Duodecar • Octal • Novar • Dual-control grids † For high-fidelity equipment § Neonval

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## 3. BANDPASS AMPLIFIER (COLOR TV)

Medium-Mu Triode—Sharp-Cutoff Pentode  
• 5GH8A • 6HL8 • 6MQ8  
• 6GH8A

High-Mu Triode—Sharp-Cutoff Pentode  
• 6AW8A • 6KV8 • 8AW8A  
• 6KT8 • 6LF8 • 11KV8

## 4. BLANKERS

Medium-Mu Triode—Sharp-Cutoff Pentode  
• 5GH8A • 6GH8A • 6MQ8

Medium-Mu Twin Triode  
• 6FQ7/6CG7 • 8FQ7/8CG7 • 12BH7A  
• 6GU7 • 8GU7

Medium-Mu Triode—Semiremote-Cutoff Pentode  
• 6LM8

High-Mu Triode—Sharp-Cutoff Pentode  
• 6KT8

## 5. BURST AMPLIFIERS

Beam-Deflection Tube

• 6JH8

Medium-Mu Triode—Sharp-Cutoff Pentode  
• 5EA8 • 6EA8 • 19EA8  
• 5GH8A • 6GH8A

Medium-Mu Triode—Semiremote-Cutoff Pentode  
• 6LM8 • 6MU8

Twin Diode—High-Mu Triode  
• 6BN8 • 8BN8

Sharp-Cutoff Pentode

• 3JC6A • 4JC6A • 6EW6  
• 4EW6 • 5EW6 • 6JC6A

## 6. CATHODE-DRIVE RF AMPLIFIERS (GROUNDED-GRID)

Medium-Mu Triode

• 6BC4

Medium-Mu Twin Triode

• 4BC8 • 5BK7A • 6BQ7A/  
• 4BQ7A • 5BQ7A • 6BZ7/  
• 4BS8 • 6BC8/6BZ8 6BS8  
• 4BZ7 • 6BK7B

High-Mu Triode

• 2CW4 • 4HQ5 • 6DS4  
• 2DS4 • 6AB4 • 6HQ5  
• 2HQ5 • 6CW4 • 13CW4  
• 3HQ5

High-Mu Twin Triode

• 6DT8 • 12A7A • 12DT8  
• 12AT7/ECC81

## 7. CHROMA AMPLIFIERS

Medium-Mu Triode—Sharp-Cutoff Pentode  
• 5GH8A • 6GH8A

Medium-Mu Triple Triode

• 6MD8 • 12MD8

Medium-Mu Twin Triode

• 6FQ7/6CG7 • 8FQ7/8CG7 • 12BH7A  
• 6GU7 • 8GU7

## 8. COLOR KILLERS

Quadruple Diode

• 6JU8A • 8JU8A

Medium-Mu Triode—Sharp-Cutoff Pentode

• 5GH8A • 6GH8A • 6MQ8

High-Mu Triode—Sharp-Cutoff Pentode

• 6KT8

• Miniature • Nuvistor • Novar



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9. COLOR MATRIXING CIRCUITS		Diode—Sharp-Cutoff, Three-Plate Tetrode
Medium-Mu Twin Triode		• 6KM8
• 6FQ7/6CG7 • 8FQ7/8CG7 • 12BH7A		
• 6GU7 • 8GU7		
Medium-Mu Triode—Sharp Cutoff Pentode		Medium-Mu Triode—Three-Plate Tetrode
• 5GH8A • 6GH8A		• 6FH8
Medium-Mu Triple Triode		
• 6MD8 ± 6MJ8 ▲ 12MD8		
High-Mu Triple Triode		
± 6MN8		
Twin Pentode		
• 6LE8 • 10LE8 • 15LE8		
Quadruple Diode		
• 6JU8A • 8JU8A		
10. COMPLEX-WAVE GENERATORS		
High-Mu Twin Double-Plate Triode		
• 12FQ8		
Diode—Sharp-Cutoff, Twin-Plate Tetrode		
• 6FA7		
11. CONVERTERS		
Medium-Mu Triode—Sharp-Cutoff Pentode		
• 4KE8 • 5X8 • 6U8A/		
• 5EA8 • 6EA8 • 6KD8		
• 5GH8A • 6GH8A • 9KZ8		
• 5KE8 • 6KE8 • 19EA8		
• 5U8 • 6KZ8 • 19X8		
High-Mu Twin Triode		
• 6DT8 • 12AZ7A • 12DT8		
• 12AT7/ECC81		
Sharp-Cutoff Pentode		
• 3AU6 • 6AU6A		
• 4AU6 • 12AU6		
Pentagrid		
• 6BA7 • 12BE6		
• 6BE6 • 18FX6A		
12. DAMPERS		
Half-Wave (Diode)		
• 6AU4GTA • 6DM4A/		
• 6AX4GTB • 6DA4		
• 6AY3B • 6DW4B		
• 6BA3 • 6W4GT		
± 6BE3/6BZ3 • 12AX4GTB		
• 6BH3A • 12AY3A		
• 6BS3A ± 12BE3		
± 6CG3/6CE3/ ▲ 12BS3A/		
• 6CD3/6BW3 12DW4A		
• 6CJ3/6CH3 ▲ 12CL3		
• 6CK3 • 12D4		
• 6CL3 • 17AX4GTA		
• 6CM3 • 17AY3A		
• 6DE4/ ± 17BE3/		
• 6CQ4 17BZ3		
13. DEMODULATORS (COLOR TV)		
Medium-Mu Twin Triode		
• 12BH7A		
Medium-Mu Triode—Sharp-Cutoff Pentode		
• 5GH8A • 6GH8A		
High-Mu Twin Triode		
• 12AZ7A		

• Miniature    ○ Octal    ▲ Nuvisor    ▲ Novar    ‡ Duodecar

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<p>Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 5HZ6</li> <li>• 6GY6</li> <li>† 6BV11</li> </ul> <p>Pentagrid Amplifier</p> <ul style="list-style-type: none"> <li>• 3BY6</li> <li>• 6BY6</li> </ul> <p>Twin Pentode</p> <ul style="list-style-type: none"> <li>• 6LE8</li> <li>• 10LE8</li> <li>• 15LE8</li> </ul> <p>Beam Deflection Tube</p> <ul style="list-style-type: none"> <li>• 6JH8</li> <li>• 6ME8</li> </ul> <p>Sharp-Cutoff Twin Pentode</p> <ul style="list-style-type: none"> <li>• 6ME8</li> </ul> <p><b>14. DETECTORS</b></p> <p>Diode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 5AM8</li> <li>• 6AM8A</li> <li>• 5AS8</li> <li>• 6AS8</li> </ul> <p>Diode—Remote-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 6CR6</li> <li>• 12CR6</li> <li>• 12EQ7</li> <li>• 6EQ7</li> </ul> <p>Twin Diode</p> <ul style="list-style-type: none"> <li>• 3AL5</li> <li>• 6AL5</li> <li>• 12AL5</li> </ul> <p>Twin Diode—High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 3AV6</li> <li>• 6BN8</li> <li>• 6CN7</li> <li>• 6AT6</li> <li>• 8BN8</li> <li>• 12AT6</li> <li>• 18FY6A</li> </ul>	<p>Triple Diode</p> <ul style="list-style-type: none"> <li>• 6BJ7</li> </ul> <p>Triple Diode—High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 5T8</li> <li>• 6T8A</li> </ul> <p>Quadruple Diode</p> <ul style="list-style-type: none"> <li>• 6JU8A</li> <li>• 8JU8A</li> </ul> <p>Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 3DT6A*</li> <li>• 5HZ6*</li> <li>• 4DT6A*</li> <li>• 6DT6A*</li> <li>• 5GX6*</li> </ul> <p><b>15. DC RESTORERS</b></p> <p>Diode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 5AM8</li> <li>• 6AM8A</li> <li>• 5AS8</li> <li>• 6AS8</li> </ul> <p>Triple Diode</p> <ul style="list-style-type: none"> <li>• 6BJ7</li> </ul> <p><b>16. DISCRIMINATORS</b></p> <p>FM</p> <p>Twin Diode</p> <ul style="list-style-type: none"> <li>• 3AL5</li> <li>• 6AL5</li> <li>• 12AL5</li> </ul> <p>Twin Diode—High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 6BN8</li> <li>• 14GT8</li> </ul> <p>Triple Diode—High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 5T8</li> <li>• 6T8A</li> </ul>	<p>Beam Tube</p> <ul style="list-style-type: none"> <li>• 3BN6</li> <li>• 4BN6</li> <li>• 6BN6/6KS6</li> </ul> <p>Beam Power Tube—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>† 6AL11</li> <li>† 12AL11</li> <li>† 6BF11</li> <li>† 12BF11</li> </ul> <p>Pentode—Beam Power Tube</p> <ul style="list-style-type: none"> <li>† 6Z10/6J10</li> <li>† 13Z10/13J10</li> <li>† 17AB10/17X10</li> </ul> <p><i>FM Quadrature-Grid</i></p> <p>Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 3DT6A*</li> <li>• 6DT6A*</li> <li>• 4DT6A*</li> <li>• 6GX6*</li> <li>• 5HZ6*</li> <li>• 6GY6*</li> <li>• 6HZ6*</li> </ul> <p>Beam Tube</p> <ul style="list-style-type: none"> <li>• 3BN6</li> <li>• 4BN6</li> <li>• 6BN6/6KS6</li> </ul> <p><i>Horizontal AFC</i></p> <p>Twin Diode—High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 6BN8</li> <li>• 8BN8</li> <li>• 6CN7</li> <li>• 8CN7</li> </ul> <p>Twin Diode—Sharp Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 6LT8</li> <li>• 8LT8</li> <li>• 11LT8</li> </ul> <p><b>17. FREQUENCY DIVIDERS</b></p> <p>High-Mu Twin Double-Plate Triode</p> <ul style="list-style-type: none"> <li>• 12FQ8</li> </ul> <p><b>18. FM DETECTORS</b></p> <p>(See 16. Discriminators)</p>
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• Miniature    ○ Octal    \* Dual-control grids    † Duodecar



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## 19. GATED NOISE, AGC, AND SYNC AMPLIFIERS

High-Mu Triode—Sharp-Cutoff Pentode  
• 6KA8 • 8KA8 • 8LC8  
• 6LC8

Sharp-Cutoff Pentode

• 6GY6\*

Sharp-Cutoff Twin Pentode

• 3BU8/ • 4HS8 • 6HS8  
3GS8 • 6BU8

Pentagrid Amplifier

• 3BY6 • 4CS6 • 6CS6  
• 3CS6 • 6BY6

## 20. GROUNDED-GRID RF AMPLIFIERS

(See 6. Cathode-Drive RF  
Amplifiers)

## 21. HARMONIC GENERATORS

(See 10. Complex-Wave Generators)

## 22. HORIZONTAL-DEFLECTION CIRCUITS

### Amplifiers

Beam Power Tube

• 6AU6GT • 6JT6A • 17JG6A  
• 6AV5GA • 6JU6 • 17JM6A  
• 6BQ6GTB/ • 6KM6 • 17JT6A  
6CU6 • 6LQ6/ • 22JF6  
• 6CB5A • 6JE6C • 22JG6A  
• 6CD6GA • 12AV5GA • 22JR6  
• 6DQ5 • 12BQ6GTB/ • 22KM6  
• 6GJ5A • 12CU6 • 24LQ6/  
• 6GT5A • 12JB6A • 24JE6C  
• 6GW6/ • 12JT6A • 25AV5GA  
• 6DQ6B • 17BQ6GTB • 25BQ6GTB/  
• 6JB6A • 17GJ5A • 25CU6  
• 6JF6 • 17GT5A • 25CD6GB  
• 6JG6A • 17GW6/ • 25DN6  
• 6JM6A • 17DQ6B • 31JS6C  
• 6JR6 • 17JB6A • 31LQ6  
• 6JS6C

### Oscillators

Medium-Mu Triode—Sharp-Cutoff Pentode

• 5GH8A • 6GH8A

Medium-Mu Twin Triode

• 6FQ7/6CG7 • 8FQ7/8CG7 • 12BH7A  
• 6SN7GTB • 9AU7 • 12SN7GTA  
• 7AU7 • 12AU7A/ECC82

## 23. INTERMEDIATE-FREQUENCY AMPLIFIERS

Medium-Mu Triode—Sharp-Cutoff Tetrode  
• 5CQ8 • 6CQ8

Medium-Mu Triode—Sharp-Cutoff Pentode  
• 5AN8 • 6AZ8 • 6GH8A  
• 5GH8A • 6BH8 • 11LQ8  
• 6AN8A • 6CU8

High-Mu Triode—Sharp-Cutoff Pentode

• 6AW8A • 6KV8 • 10GN8  
• 6GN8 • 8AW8A • 10HF8  
• 6HF8 • 8GN8/ • 10JA8/  
• 6JV8 • 8EB8 • 10LZ8  
• 6KT8 • 8JV8 • 11KV8

Sharp-Cutoff Pentode

• 3AU6 • 4JD6- • 6DK6  
• 3BC5/3CE5 • 5EW6 • 6EJ7/  
• 3CB6/3CF6 • 6AG5 • EF184  
• 3DK6 • 6AK5/ • 6EW6  
• 3JC6A • EF95 • 6HS6  
• 4AU6 • 6AU6A • 6JC6A  
• 4CB6 • 6BC5/6CE5 • 6JD6-  
• 4DE6 • 6CB6A/ • 12AU6  
• 4DK6 • 6CF6 • 12AW6  
• 4EW6 • 6DC6 • 12DK6  
• 4JC6A • 6DE6 • 18GD6A

• Miniature • Octal • Dual-control grids ‡ Duodecar Δ Nuvistor ▲ Novar

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<p><b>Diode—Sharp-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 5AM8 • 6AM8A • 6AS8</li> <li>• 5AS8</li> </ul> <p><b>Semiremote-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 3BZ6 • 4KT6 • 6HR6</li> <li>• 3KT6 • 5GM6 • 6JH6</li> <li>• 4BZ6 • 6BZ6 • 6KT6</li> <li>• 4EH7/LF183 • 6EH7/EF183 • 12BZ6</li> <li>• 4GM6 • 6GM6 • 19HR6</li> <li>• 4JH6</li> </ul> <p><b>Remote-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 6BA6/EF93 • 12BA6 • 18FW6A</li> </ul> <p><b>Remote-Cutoff Pentode with Diode</b></p> <ul style="list-style-type: none"> <li>• 6EQ7 • 12EQ7</li> </ul>	<p><b>Power Pentode—Beam Power Tube</b></p> <ul style="list-style-type: none"> <li>‡ 6Z10/6J10 ‡ 13Z10/13J10 ‡ 17AB10/17X10</li> </ul> <p><b>26. MIXERS—RF</b></p> <p><b>Medium-Mu Twin Triode</b></p> <ul style="list-style-type: none"> <li>• 5J6 • 6J6A</li> </ul> <p><b>High-Mu Triode</b></p> <ul style="list-style-type: none"> <li>Δ 2CW4 Δ 6CW4 Δ 13CW4</li> <li>• 6AB4</li> </ul>	<p><b>28. MULTIVIBRATORS</b></p> <p><b>Medium-Mu Triode—Sharp-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 5GH8A • 6GH8A</li> </ul> <p><b>Medium-Mu Twin Triode</b></p> <ul style="list-style-type: none"> <li>• 6FQ7/6CG7 • 8FQ7/8CG7 • 12BH7A</li> <li>• 6GU7 • 8GU7 • 12SN7-</li> <li>○ 6SN7GTB • 9AU7 • 12SN7-GTA</li> <li>• 7AU7 • 12AU7A/ECC82</li> </ul> <p><b>High-Mu Twin Triode</b></p> <ul style="list-style-type: none"> <li>• 12AX7A/ECC83</li> </ul> <p><b>29. NOISE INVERTERS (NOISE IMMUNE CIRCUITS)</b></p> <p><b>High-Mu Triode—Sharp-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 6KA8 • 8KA8 • 8LC8</li> <li>• 6LC8</li> </ul> <p><b>Sharp-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 6GY6*</li> </ul> <p><b>Quadruple Diode</b></p> <ul style="list-style-type: none"> <li>• 6JU8A • 8JU8A</li> </ul> <p><b>30. OSCILLATORS</b></p> <p><i>Radio Frequency—UHF</i></p> <p><b>Medium-Mu Triode</b></p> <ul style="list-style-type: none"> <li>• 2AF4B/ • 3AF4A/ Δ 6DV4</li> <li>2DZ4 • 3DZ4 • 6DZ4</li> <li>Δ 2DV4 • 6AF4A</li> </ul>
<p><b>24. KEYED AGC AMPLIFIERS</b></p> <p>(See 19. Gated Noise, AGC, and Sync Amplifiers)</p> <p><b>25. LIMITERS</b></p> <p><b>Beam Tube</b></p> <ul style="list-style-type: none"> <li>• 3BN6 • 4BN6 • 6BN6/6KS6</li> </ul> <p><b>Sharp-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 3AU6 • 6GX6 • 6HZ6</li> <li>• 4AU6 • 6HS6 • 12AU6</li> <li>• 6AU6A</li> </ul>	<p><b>27. MIXER-OSCILLATORS—RF</b></p> <p><b>Medium-Mu Triode—Sharp-Cutoff Tetrode</b></p> <ul style="list-style-type: none"> <li>• 5CL8A • 6CL8A • 19JN8/</li> <li>• 5CQ8 • 6CQ8 • 19CL8A</li> </ul> <p><b>Medium-Mu Triode—Sharp-Cutoff Pentode</b></p> <ul style="list-style-type: none"> <li>• 4KE8 • 5U8 • 6KE8</li> <li>• 5AT8 • 5X8 • 6KZ8</li> <li>• 5B8 • 6AT8A • 6U8A/</li> <li>• 5BR8/ • 6BR8A/ • 6KD8</li> <li>5FV8 • 6FV8A • 6X8A</li> <li>• 5CG8 • 6CG8A • 9KZ8</li> <li>• 5EA8 • 6EA8 • 9U8A</li> <li>• 5FG7 • 6FG7 • 19EA8</li> <li>• 5KE8 • 6HB7 • 19X8</li> </ul> <p><b>High-Mu Twin Triode</b></p> <ul style="list-style-type: none"> <li>• 6DT8 • 12AT7/ ECC81</li> <li>• 12DT8</li> </ul>	<p><b>Approaches semiremote-cutoff characteristics; used in first-if amplifier applications</b></p>

• Miniature ○ Octal \* Dual-control grids Δ Duodecar ‡ Navistor † Duodecar



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<p><i>Radio Frequency—VHF</i></p> <p>Medium-Mu Twin Triode</p> <ul style="list-style-type: none"> <li>• 5J6</li> <li>• 6J6A</li> </ul> <p>High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 6AB4</li> </ul> <p>Power Triode</p> <ul style="list-style-type: none"> <li>• 6C4 (Class C)</li> </ul> <p><i>3.58-MHz (Color TV)</i></p> <p>Medium-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 5GH8A</li> <li>• 6GH8A</li> </ul> <p>High-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 6KT8</li> </ul> <p><i>Low Frequency, Sweep Type</i></p> <p>Medium-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 5AN8</li> <li>• 6AN8A</li> <li>• 6AU8A</li> <li>• 6AZ8</li> </ul> <p>Twin Diode—High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 6BN8</li> <li>• 6CN7</li> </ul> <p>High-Mu Twin Triode</p> <ul style="list-style-type: none"> <li>• 12AX7A/ECC83</li> </ul>	<p>31. PHASE INVERTERS</p> <p>Medium-Mu Twin Triode</p> <ul style="list-style-type: none"> <li>• 6FQ7/6CG7</li> <li>• 6GU7</li> <li>• 6SN7GTB</li> <li>• 7AU7</li> </ul> <p>High-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 6AW8A</li> <li>• 6EB8</li> <li>• 6GN8</li> <li>• 6HF8</li> </ul> <p>High-Mu Twin Triode</p> <ul style="list-style-type: none"> <li>• 6SL7GT</li> <li>• 12AX7A/ECC83</li> </ul> <p>Medium-Mu Triple Triode</p> <ul style="list-style-type: none"> <li>• 6AV11</li> </ul> <p>32. PHASE SPLITTERS</p> <p>Medium-Mu Triode—Sharp-Cutoff Tetrode</p> <ul style="list-style-type: none"> <li>• 5CQ8</li> </ul> <p>Medium-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 5AN8</li> <li>• 6AN8A</li> <li>• 6AZ8</li> </ul>	<p>High-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 6AW8A</li> <li>• 8AW8A</li> </ul> <p>33. RADIO-FREQUENCY AMPLIFIERS</p> <p>Medium-Mu Triode</p> <ul style="list-style-type: none"> <li>• 2BN4A</li> <li>• 3BN4A</li> </ul> <p>Medium-Mu Triode—Sharp-Cutoff Tetrode</p> <ul style="list-style-type: none"> <li>• 5CQ8</li> <li>• 6CQ8</li> </ul> <p>Medium-Mu Twin Triode</p> <ul style="list-style-type: none"> <li>• 4BC8</li> <li>• 4BQ7A</li> <li>• 4BS8</li> <li>• 5BK7A</li> </ul> <p>High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 2CW4</li> <li>• 2DS4</li> <li>• 2EG4</li> <li>• 2ER5</li> <li>• 2FH5</li> <li>• 2GK5</li> <li>• 2FQ5A</li> </ul>	<p>Medium-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 12BH7A</li> <li>• 12SN7-GTA</li> <li>• 12AU7A/ECC82</li> </ul> <p>High-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 10GN8</li> <li>• 10HF8</li> <li>• 10JA8/10LZ8</li> </ul> <p>High-Mu Triode—Sharp-Cutoff Tetrode</p> <ul style="list-style-type: none"> <li>• 7025</li> </ul> <p>Medium-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"> <li>• 6BQ7A/6E77/6BS8</li> <li>• 6J6A</li> </ul> <p>High-Mu Triode</p> <ul style="list-style-type: none"> <li>• 3ER5</li> <li>• 3FH5</li> <li>• 3GK5</li> <li>• 3HM5/3HA5</li> <li>• 4GK5</li> <li>• 6AB4</li> <li>• 6CW4</li> <li>• 6HMS/6HA5</li> <li>• 13CW4</li> </ul>
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• Miniature    • Octal    • Navistor    • Dual-control grids    • Duodecar



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<p>High-Mu Twin Triode</p> <ul style="list-style-type: none"><li>• 6DT8</li><li>• 12AZ7A</li><li>• 12DT8</li></ul> <p>Power Triode</p> <ul style="list-style-type: none"><li>• 6C4 (Class C)</li></ul> <p>Sharp-Cutoff Tetrode</p> <ul style="list-style-type: none"><li>• 2CY5</li><li>• 6CY5</li><li>• 3CY5</li></ul> <p>Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"><li>• 3AU6</li><li>• 3BC5/3CE5</li><li>• 3CB6/3CF6</li><li>• 4AU6</li><li>• 4CB6</li><li>• 4DE6</li><li>• 6AG5</li><li>• 6AK5/EF95</li><li>• 6AU6A</li><li>• 6BC5/6CE5</li><li>• 6BH6</li><li>• 6CB6A/6CF6</li><li>• 6DC6</li><li>• 6DE6</li><li>• 12AU6</li><li>• 12AW6</li><li>• 18GD6A</li></ul> <p>Remote-Cutoff Pentode</p> <ul style="list-style-type: none"><li>• 6BA6/EF93</li><li>• 12BA6</li><li>• 6BJ6</li><li>• 18FW6A</li></ul> <p>Remote-Cutoff Pentode with Diode</p> <ul style="list-style-type: none"><li>• 6EQ7</li><li>• 12EQ7</li></ul>	<p>High-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"><li>• 6AW8A</li><li>• 8AW8A</li></ul> <p><b>35. RECTIFIERS</b></p> <p><i>Power-Supply Types—Vacuum</i></p> <p>Half-Wave (Diode)</p> <ul style="list-style-type: none"><li>• 35W4</li><li>• 35Z5GT</li><li>• 36AM3B</li><li>• 50DC4</li></ul> <p>Full-Wave (Twin Diode)</p> <ul style="list-style-type: none"><li>• 3DG4</li><li>• 5AS4A</li><li>• 5BC3A</li><li>• 5DJ4</li><li>• 5U4GB</li><li>• 5V3A</li><li>• 5AU4</li><li>• 5V4GA</li><li>• 5Y3GT</li><li>• 6CA4</li><li>• 6X4</li><li>• 6X5GT</li><li>• 12X4</li></ul> <p><i>High-Voltage Types (For rf-rectifier or pulsed low-current applications)—Vacuum</i></p> <p>Half-Wave (Diode)</p> <ul style="list-style-type: none"><li>• 1BC2</li><li>• 1G3GT/1B3GT</li><li>• 1K3/1J3</li><li>• 1V2</li><li>• 1X2B/1X2A</li><li>• 2AV2</li><li>• 2BJ2</li><li>• 2CN3A</li><li>• 3A3B</li><li>• 3BW2/3BS2A/3BT2</li><li>• 3CA3</li><li>• 3CN3A</li><li>• 3CU3A</li><li>• 3CX3</li><li>• 3CZ3</li><li>• 3DB3/3CY3</li></ul>	<p><b>36. REGULATORS (HIGH VOLTAGE)</b></p> <p>Beam Triode</p> <ul style="list-style-type: none"><li>• 6BK4C/6EL4A</li><li>• 6LJ6A/6LH6A</li></ul> <p>Beam Power Tube</p> <ul style="list-style-type: none"><li>• 17KV6A</li><li>• 22KV6A</li></ul> <p><b>37. SYNC AMPLIFIERS</b></p> <p>Medium-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"><li>• 6AU8A</li><li>• 6AZ8</li><li>• 6CX8</li><li>• 8AU8</li><li>• 8CX8</li></ul> <p>Medium-Mu Twin Triode</p> <ul style="list-style-type: none"><li>• 6FQ7/6CG7</li><li>• 7AU7</li><li>• 8FQ7/8CG7</li><li>• 9AU7</li><li>• 12AU7A/EOC82</li></ul> <p>High-Mu Triode with Twin Diode</p> <ul style="list-style-type: none"><li>• 6CN7</li><li>• 8CN7</li></ul> <p>High-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"><li>• 6AW8A</li><li>• 6HF8</li><li>• 6JV8</li><li>• 8AW8A</li><li>• 10HF8</li><li>• 12BZ7</li></ul> <p>High-Mu Twin Triode</p> <ul style="list-style-type: none"><li>• 12BZ7</li></ul>
<p><b>34. REACTANCE CIRCUITS</b></p> <p>Medium-Mu Triode—Sharp-Cutoff Pentode</p> <ul style="list-style-type: none"><li>• 5AN8</li><li>• 6AN8A</li><li>• 6AZ8</li><li>• 6BA8A</li><li>• 6CU8</li><li>• 8BA8A</li></ul> <p>Twin Diodes—High-Mu Triode</p> <ul style="list-style-type: none"><li>• 6CN7</li><li>• 8CN7</li></ul>	<p>• Miniature</p> <p>• Octal</p> <p>• Novar</p> <p>• Duodecar</p>	



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<b>38. SYNC CLIPPERS</b> Medium-Mu Triode—Sharp-Cutoff Tetrode • 5CQ8 • 6CQ8  Medium-Mu Triode—Sharp-Cutoff Pentode • 5AN8 • 6AZ8 • 8AU8 • 8CX8 • 6AN8A • 6CU8 • 6CX8A • 6AU8A • 6CX8  High-Mu Triode—Sharp-Cutoff Pentode • 6AW8A • 6HF8 • 8JV8 • 6EB8 • 6JV8 • 10GN8 • 6GN8 • 8AW8A • 10HF8 • 6GW8/ • 8GN8/ • 10JA8/ ECL86 8EB8 10LZ8  High-Mu Twin Triode • 12BZ7	<b>39. SYNC SEPARATORS</b> Medium-Mu Triode—Sharp-Cutoff Tetrode • 5CQ8 • 6CQ8  Medium-Mu Triode—Sharp-Cutoff Pentode • 5AN8 • 6CU8 • 6MQ8 • 5GH8A • 6CX8 • 8AU8 • 6AN8A • 6GH8A • 8CX8 • 6AU8A • 6HL8 • 11LQ8 • 6AZ8 • 6LQ8  Medium-Mu Twin Triode • 6FQ7/6CG7 • 8FQ7/8CG7 • 12AU7A/ • 7AU7 • 9AU7 ECC82  Twin Diode—High-Mu Triode • 6CN7 • 8CN7  High-Mu Triode—Sharp-Cutoff Pentode • 6AW8A • 6KV8 • 8LC8 • 6EB8 • 6LC8 • 10CN8 • 6GN8 • 8AW8A • 10HF8 • 6HF8 • 8CN8/ • 10JA8/ • 6JV8 • 8EB8 10LZ8 • 6KA8 • 8JV8 • 11KV8 • 6KT8 • 8KA8  High-Mu Twin Triode • 12BZ7	Sharp-Cutoff Twin Pentode • 3BU8/ • 4HS8 3GS8 • 6BU8  Pentagrid Amplifier • 3BY6 • 4CS6 • 3CS6 • 6BY6  Medium-Mu Triode—Low-Mu Triode • 6DE7 • 10DE7 • 13DE7 \$ 6EW7 \$ 10EW7  Medium-Mu Dual Triode • 6CM7 • 8CM7 • 8CS7 • 6CS7  Medium-Mu Twin Triode • 6FQ7/6CG7 • 8FQ7/8CG7
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## 41. VERTICAL-DEFLECTION CIRCUITS

*Oscillators and Amplifiers (Combined)*

Medium-Mu Triode—Low-Mu Triode • 6DE7 • 10DE7 • 13DE7 \$ 6EW7 \$ 10EW7  Medium-Mu Dual Triode • 6CM7 • 8CM7 • 8CS7 • 6CS7  Medium-Mu Twin Triode • 6FQ7/6CG7 • 8FQ7/8CG7	Sharp-Cutoff Twin Pentode • 3BU8/ • 4HS8 3GS8 • 6BU8  Pentagrid Amplifier • 3BY6 • 4CS6 • 3CS6 • 6BY6  Medium-Mu Triode—Low-Mu Triode • 6DE7 • 10DE7 • 13DE7 \$ 6EW7 \$ 10EW7  Medium-Mu Dual Triode • 6CM7 • 8CM7 • 8CS7 • 6CS7  Medium-Mu Twin Triode • 6FQ7/6CG7 • 8FQ7/8CG7
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• Miniature ○ Octal § Neonovial

# APPLICATION GUIDE FOR RCA RECEIVING TUBES

<b>High-Mu Triode—Low-Mu Triode</b> <ul style="list-style-type: none"> <li>• 6CY7    ◯ 6GL7    • 13DR7</li> <li>• 6DR7    • 10DR7    ◯ 13EM7/</li> <li>◯ 6EM7/6EA7    ◯ 10EM7    15EA7</li> <li>▲ 6FD7    ▲ 10GF7A    ▲ 13FD7</li> <li>▲ 6GF7A    • 11CY7    ▲ 13GF7A</li> </ul>	<b>Beam Power Tube</b> <ul style="list-style-type: none"> <li>• 5AQ5    • 6EM5</li> <li>• 5CZ5    • 6HR5</li> <li>◯ 5V6GT    • 6JQ6#</li> <li>• 6AQ5A    ◯ 6V6</li> <li>• 6CM6    ◯ 6V6GTA</li> <li>• 6CZ5    • 8EM5</li> </ul>	<b>High-Mu Triode—Sharp-Cutoff Pentode</b> <ul style="list-style-type: none"> <li>• 6AW8A    • 6KV8    • 8JV8</li> <li>• 6EB8    • 6LF8    • 10GN8</li> <li>• 6GN8    • 8AW8A    • 10HF8</li> <li>• 6HF8    • 8GN8 /    • 10JA8</li> <li>• 6JV8    8EB8    • 11KV8</li> <li>• 6KT8</li> </ul>
<b>High-Mu Triode—Beam Power Tube</b> <ul style="list-style-type: none"> <li>▲ 6KY8A    ▲ 15KY8A</li> </ul>	<b>Power Pentode</b> <ul style="list-style-type: none"> <li>◯ 6K6GT</li> </ul>	<b>Sharp-Cutoff Pentode</b> <ul style="list-style-type: none"> <li>• 3JC6A    • 7KY6    • 12BY7A /</li> <li>• 4JC6A    • 11HM7    12BV7/</li> <li>• 6JC6A    § 12HG7    12DQ7</li> </ul>
<b>Dual Triode</b> <ul style="list-style-type: none"> <li>◯ 6EM7/6EA7    ▲ 6GF7A    ◯ 13EM7/</li> <li>15EA7</li> </ul>	<b>42. VIDEO AMPLIFIERS</b> <b>Medium-Mu Triode—Sharp-Cutoff Pentode</b> <ul style="list-style-type: none"> <li>• 5AN8    • 6BH8    • 6MQ8</li> <li>• 5GH8A    • 6CU8    • 8AU8</li> <li>• 6AN8A    • 6CX8    • 8BA8A</li> <li>• 6AU8A    • 6GH8A    • 8BH8</li> <li>• 6AZ8    • 6HL8    • 8CX8</li> <li>• 6BA8A    • 6LQ8    • 11LQ8</li> </ul>	<b>Sharp-Cutoff Pentode</b> <ul style="list-style-type: none"> <li>• 5AM8    • 6AM8A    • 12HL7</li> <li>• 5AS8    • 6AS8</li> </ul>
<b>Low-Mu Triode</b> <ul style="list-style-type: none"> <li>• 12B4A</li> </ul>	<b>Amplifiers</b> 	<b>Power Pentode</b> <ul style="list-style-type: none"> <li>◯ 6AG7    • 6CL6    • 6GK6</li> </ul>
<b>Medium-Mu Triode</b> <ul style="list-style-type: none"> <li>• 6S4A</li> </ul>		

• Miniature    ◯ Octal    ▲ Novar    § Neosoval    # With an integral diode